CLAIMS

1) Wind machine mounted on a vertical mast (2) and having a wind-driven turbine (1) which is fitted with blades (6) mounted on a large-diameter hub (7) with a horizontal axis, and an alternator co-operating with the turbine (1) to generate electrical power and which is provided on the one hand with a magnetic rotor (4) fixed to the hub (7), preferably on a level with the maximum available diameter, and on the other hand a magnetic coil stator (5) adjacent to the rotor (4) and secured to a stationary frame (22) joined to an encircling hood (9) extending the hub (7) coaxially to form a streamlined casing in which the alternator is housed,
characterised in that
the upstream part of the hood is extended by an aerodynamic nose (20) joined therewith in rotation which preferably shrouds the bases of the blades (6) and its downstream part is extended by the stationary encircling hood (22) joined to the stator (5).

2) Wind machine as claimed in claim 1,
characterised in that
the rotating hub (7) has a bell-shaped element (17), the downstream part (21) of which having the larger diameter contiguous with the hood (9) is fitted with the rotor (4) and the upstream part of which retains the bases of the blades.

Sub 21 3) Wind machine as claimed in any one of claims 1 and 2, characterised in that

the aerodynamic nose (20) is provided with a wind inlet orifice (35) communicating, on the one hand, with a water-separating enclosure (37) and, on the other hand, with ducts (38, 39) for guiding air cooling the electric power circuits.

4) Wind machine as claimed in any one of claims 1 to 3, characterised in that
at its upstream end contiguous with the rotating hub (7), the hood (9) is extended by a gutter (40) penetrating the interior of the latter to collect rain water.

5) Wind machine mounted on a vertical mast (2) and having a wind-driven turbine (1) which is fitted with blades (6) mounted on a large-diameter hub (7) with a horizontal axis, and an alternator co-operating with the turbine (1) to generate electrical power and which is provided on the one hand with a magnetic rotor (4) secured to the hub (7), preferably on a level with the maximum available diameter, and on the other hand a magnetic coil stator (5) adjacent to the rotor (4) and secured to a stationary frame (22) joined to an encircling hood (9) extending the hub (7) coaxially to form a streamlined casing in which the alternator is housed,
characterised in that
the internal part of the hub (7) is provided with a flat ring (23) having a horizontal axis coinciding with the axis of rotation, the lateral faces (25, 25') and/or the internal (26) or external (57) peripheral edge of which co-operate with groups of runner wheels (27, 29, 29') having fixed shafts joined to the frame (22) to define a

retaining and guide rail during rotation.

6) Wind machine as claimed in claim 5,
characterised in that
the flat ring (23) co-operates with braking means (31) of the disk brake type disposed between the groups of wheels (27, 29, 29').

7) Wind machine as claimed in any one of claims 5 and 6,
characterised in that
the upstream end of the hood (9) contiguous with the rotating hub (7) is extended by a gutter (40) penetrating the interior thereof for collecting rain water.

8) Wind machine mounted on a vertical mast (2) and having a wind-driven turbine (1) which is fitted with blades (6) mounted on a large-diameter hub (7) with a horizontal axis, and an alternator co-operating with the turbine (1) to generate electrical power and which is provided on the one hand with a magnetic rotor (4) secured to the hub (7), preferably on a level with the maximum available diameter, and on the other hand a magnetic coil stator (5) adjacent to the rotor (4) and secured to a stationary frame (22) joined to an encircling hood (9) extending the hub (7) coaxially to form a streamlined casing in which the alternator is housed,
characterised in that
the ends (55) of the blades (6) are shrouded by a relatively short, divergent, circular fairing (8), mounted integrally therewith and concentrically with the hub (7).

9) Wind machine mounted on a vertical mast (2) and having a wind-driven turbine (1) which is fitted with blades (6) mounted on a large-diameter hub (7) with a horizontal axis, and an alternator co-operating with the turbine (1) to generate electrical power and which is provided on the one hand with a magnetic rotor (4) secured to the hub (7), preferably on a level with the maximum available diameter, and on the other hand a magnetic coil stator (5) adjacent to the rotor (4) and secured to a stationary frame (22) joined to an encircling hood (9) extending the hub (7) coaxially to form a streamlined casing in which the alternator is housed,
characterised in that
the blades (6) are shrouded in the vicinity of their ends (55) by a relatively short, divergent, circular fairing (8) mounted concentrically with the hub (7) and comprising a stationary element mounted on arms (41) joined to the frame (22) and co-operating with the ends (55) of the blades (6) at a slight clearance therefrom.

10) Wind machine as claimed in claim 9,
characterised in that
the fairing (8) has a rounded leading edge (44) followed by a thick fairing (45) and a divergent, thin trailing edge (46).

11) Wind machine mounted on a vertical mast (2) and having a wind-driven turbine (1) which is fitted with blades (6) mounted on a large-diameter hub (7) with a horizontal axis, and an alternator co-operating with the

turbine (1) to generate electrical power and which is provided on the one hand with a magnetic rotor (4) secured to the hub (7), preferably on a level with the maximum available diameter, and on the other hand a magnetic coil stator (5) adjacent to the rotor (4) and secured to a stationary frame (22) joined to an encircling hood (9) extending the hub (7) coaxially to form a streamlined casing in which the alternator is housed,

characterised in that

the blades (6) are helical blades inclined towards the upstream end at an angle of between 30° and 45° and dimensioned so that the swept diameter is approximately twice or four times that of the hub (7) or the hood (9).